

Fortieth

ANNUAL REPORT

OF THE

Medical Officer of Health,

OF THE

URBAN SANITARY AUTHORITY

OF

The City of Worcester.

YEAR 1913.

WORCESTER :

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The Fortieth Report of the Medical Officer of Health, being that for the Year 1913.

TO THE URBAN SANITARY AUTHORITY OF THE CITY
AND COUNTY OF WORCESTER.

GENTLEMEN,

I beg to present to you my Report for the year 1913, and the 23rd which I have written for your Authority.

The Statistics of Mortality and of Sickness for 1913 are not so good as those for 1912 which was an exceptionally healthy year, but they will compare favourably with those of the years preceding 1912. One of the chief causes was an epidemic of Measles during the first quarter and 32 deaths from this disease were registered, all but two being in children under five years of age.

The Infant death-rate was a little higher than in 1912, namely, 89 per 1000 births, whereas in 1912 it was 75. On pages 19 and 20 of this Report, I have called attention to the large proportion of the infant deaths which are grouped under the headings of prematurity, debility at birth, congenital defects, and marasmus, and most of which occur during the first week after birth. These deaths are due to ante-natal causes which are not well understood. It is a subject which needs careful study and research, and some of the National Insurance Research Fund which reaches a large amount yearly, could well be spent in obtaining information concerning the problems involved.

Another matter closely concerning the health of infants is the contamination of their food by flies. On pages 16 and 17 the risks to health from the accumulations of stable manure in the neighbourhood of houses are pointed out. It is very desirable that active steps be taken to deal with this matter before the summer heat begins, and it does not seem unreasonable to expect that the persons who keep horses in closely inhabited neighbourhoods should make a little sacrifice for the sake of the health of the children.

The work connected with Tuberculosis takes up a considerable part of this Report; also it occupies a good deal of my time, more than I anticipated. So much of it must be personal and cannot be dealt with by anyone except a medical man. I believe it will be fruitful in good results in years to come, and certainly it requires to be carried on in an optimistic spirit or not at all, for the problems involved are often most depressing and difficult to deal with.

I would call attention to the urgent need for a voluntarily organised Care Committee for the help of the Tuberculous persons in many ways which are outside the powers of a Sanitary Authority. Such Committees are at work in other places, and are found to be of the greatest value. On page 40 of this Report some of the work that would come before such a Committee is detailed.

In the first week of May, the second Health Week was held in Worcester. There were excellent Evening Lectures given in the Assembly Room of the Guildhall, but these were not well attended. On three afternoons about 1450 children on each day met at the Theatre and were shewn cinematograph films on Health topics which I explained to them. The films were excellent and instructive, and the children much enjoyed them. There was also

a Gymnastic Display at the Public Hall which was admirable and drew a large audience.

The Report of the Sanitary Inspector is full of information and is a record of a great deal of hard work.

Under the Food and Drugs Act 138 samples were taken, 66 being of Milk. Of the 57 formal samples three were found adulterated and fines were inflicted by the Magistrates in each case. The Milk and Cream Regulations, 1912, now in force are reported on in the Inspector's Report in the form prescribed by the Local Government Board, and the suggestions made by the Board in their circular letters have been carried out.

It will be seen that the Inspector seized and condemned no less a quantity than $2\frac{1}{2}$ tons of various kinds of animal food. So far as his many duties allow he is very diligent in protecting the public against unsound food of this character, and the result shews the necessity of this careful inspection.

I am,

Mr. Mayor and Gentlemen,

Your obedient Servant,

MABYN READ.

April 25th, 1914.

The Population of the City in the middle of 1913 is estimated as 48,287.

During the year further volumes of the Census of 1911 have been issued. In a table to be found on page 53 the figures for the City are set out. It will be noted that the average number of persons per inhabited building in 1901 was 4·45. In 1911 the average number was 4·37, which is less than the number in County Boroughs by ·62.

The Birth-rate per 1000 of the population was 19·25, the lowest rate that has been recorded. As will be seen in Table I., the rate in 1908 was 24·7 and it has declined year by year. The birth-rate for England and Wales for 1913 was 23·9, and that for the 145 smaller towns (including Worcester) was the same; so that Worcester has a rate 4·65 per 1000 below the average rate of the smaller towns.

The Death-rate was 14·2 per 1000 of the population. This is the crude death-rate, and in former years this is the only rate that could be given.

The Registrar General has estimated the "Standardising Factor" for many towns including Worcester, and so has enabled a death-rate to be made which is strictly comparable with the standardised death-rate of any other place.

The population taken as a standard was that which obtained in England and Wales at the census of 1901.

The composition of the population of towns as regards

the sex and age constitution varies considerably. One town has few very young or very old as compared with another town, and it is among the very young and very old groups that deaths occur in larger proportion than among the rest of the population, so that by comparing the age groups of any town with the age groups of the whole country, a standardising factor is found which is slightly more or less than unity.

The factor for Worcester is '9282. This multiplied into the crude death-rate reduces it. For the last five years the death-rates are altered thus : —

	Crude death-rate.		Standardised death-rate.
1913.....	14'2	.....	13'18
1912.....	12'46	.....	11'56
1911.....	15'2	.....	14'1
1910.....	14'7	.....	13'64
1909.....	14'7	.....	13'64

The Table on page 8 taken from the Registrar General's Report for the last quarter of the year 1913, shows how the death-rates of Worcester compare with the whole country and with the groups of towns having populations of over (great towns) and under (smaller towns) 50,000.

The Infant Death-rate per 1000 births was 89. This is a little higher than the rate for 1912 which was 75, but, with this exception, is below any previously recorded rate.

The rate for England and Wales was 109, and that for the smaller towns was 112 (see Table on page 8), so that Worcester compares favourably with those towns in this particular.

The Zymotic Death-rate was 1·22 per 1000 of the population. This is above the average of the past 10 years by '33, and this is due to the epidemic of Measles that began in the Autumn of 1912, and which caused no less than 32 deaths (see Table VI.), nearly all during the first quarter of the year.

The table of the Registrar General above referred gives the birth and death-rates, and the death-rates for seven Zymotic diseases. There is added to the table the rates for Worcester, so that comparison can be made with the average rates shewn in the table.

BIRTH-RATE, DEATH-RATE, AND ANALYSIS OF MORTALITY DURING THE YEAR 1913.

(Taken from the Registrar General's Report for the 4th Quarter of the year 1913).

	Annual Rate per 1000 living.										Annual Death-rate per 1000 births.	
	Births.	Total Deaths.		Deaths from						Diarrhoea and Enteritis (under 2 years)	Total under 1 year.	
		Crude.	Standardised.	Enteric Fever	Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.			
England and Wales...	23·9	13·7	13·4	0·04	0·00	0·28	0·06	0·14	0·12	23·41	109	
96 great towns (including London)	25·1	14·3	14·7	0·04	0·00	0·34	0·07	0·17	0·13	29·33	117	
145 smaller towns ... England and Wales, less the 241 towns	23·9	12·8	13·0	0·05	0·00	0·30	0·05	0·13	0·11	24·73	112	
London	22·3	13·1	12·1	0·04	0·00	0·20	0·05	0·12	0·11	14·39	96	
	24·5	14·2	14·2	0·02	0·00	0·34	0·04	0·17	0·09	27·50	105	
Worcester	19·25	14·2	13·18	0·06	0·00	0·66	0·02	0·02	0·08	21·5	89	

It will be seen that the standardised death-rate of Worcester is '22 below that of the whole country, and '18 above that of the average rate of the 145 smaller towns.

As regards the Zymotic diseases rates, those of Enteric Fever and Measles are above the averages, and those of Scarlet Fever, Whooping Cough, Diphtheria, and from Diarrhœa and Enteritis are below the averages of the 145 smaller towns.

The death-rate from Cancer	...	...	...	was	1'36
„	„	Tuberculosis of the Lungs	„		1'38
„	„	all other forms of Tuber-			
		culosis	...	...	„ '24
„	„	Respiratory diseases, 94 to			
		101 in the Mortality Table	„		1'84

The Infectious Diseases (Notification) Act.

The diseases notified under this Act remain the same as during 1912.

The notification of Ophthalmia Neonatorum has proved very useful, and by prompt treatment by the doctors and the careful attention of the district nurses, all the babies attacked have had their eyesight preserved to them.

In Table V. will be found the age distribution of the persons attacked, and the locality in which they lived ; also the number of persons who were removed from their homes for isolation and treatment.

The Medical Officer of the Local Government Board has for the third year issued the Statistics of Infectious diseases.

The *Sickness Rates* are here given per 1000 of the population for some of these diseases :—

	Smallpox.	Scarlet Fever.	Diphtheria.	Typhoid Fever.	Puerperal Fever.	Erysipelas.
England and Wales	·00	3·57	1·39	·22	·05	·63
London	·00	3·89	1·70	·17	·08	·92
County Boroughs	·00	4·29	1·49	·25	·07	·73
Worcester	·00	4·07	1·72	·16	·08	·46
<hr/>						
Worcester { 1912	—	3·17	1·94	·13	·06	·58
{ 1911	—	1·50	2·42	·23	·06	·67

It will be seen that compared with the aggregate rate of County Boroughs, Worcester has a slightly higher rate as regards Diphtheria and Puerperal Fever, and a lesser rate as regards Scarlet Fever, Typhoid Fever, and Erysipelas.

The sickness rate of Scarlet Fever and of Diphtheria varies much in different years. This is the case everywhere, and the number of the cases that have been notified year by year in the City are set out in a table on page 11.

The Diseases that are now scheduled under this Act have occurred during the year as follows :—

Month.	Smallpox.	Scarlet Fever.	Diphtheria.	Typhoid Fever.	Puerperal Fever.	Erysipelas.	Ophthalmia Neonatorum.	Cerebro- spinal Fever	Acute Poliomyelitis.	Total.
January ...	...	14	8	...	...	2	1	...	...	25
February...	...	22	9	1	1	5	...	...	...	38
March .....	...	21	3	...	...	2	3	...	...	29
April .....	...	11	8	1	...	...	...	...	...	20
May .....	...	13	4	...	1	3	1	...	...	22
June .....	...	10	5	2	...	3	...	...	...	20
July .....	...	22	3	1	...	2	4	...	...	32
August.....	...	12	3	1	1	...	1	...	...	18
September .	...	17	8	...	...	1	1	...	...	27
October ...	...	16	16	...	...	1	...	...	...	33
November .	...	8	7	2	...	1	...	...	1	19
December .	...	17	7	...	1	1	1	...	...	27
Total 1913	...	183	81	8	4	21	12	...	1	310
„ 1912	...	159	92	7	2	34	10	...	...	304
„ 1911	...	74	114	10	3	32	...	2	...	235
„ 1910	...	121	107	25	6	22	...	...	...	281
„ 1909	...	145	66	10	2	41	...	...	...	264
„ 1908	...	96	110	15	5	35	...	...	...	261
„ 1907	...	103	104	33	5	32	...	...	...	277
„ 1906	...	151	144	14	4	41	...	...	...	354
„ 1905	3	106	64	10	4	58	...	...	...	245
„ 1904	4	65	29	18	1	20	...	...	...	137
„ 1903	1	170	36	22	6	26	...	...	...	261
„ 1902	2	299	26	12	1	31	...	...	...	371
„ 1901	...	66	58	15	3	40	...	...	...	182
„ 1900	...	94	91	11	8	39	...	...	...	243
„ 1899	...	290	135	24	5	75	...	...	...	529
„ 1898	...	317	185	16	4	51	...	...	...	573
„ 1897	...	151	167	20	7	51	...	...	...	396
„ 1896	4	295	317	18	5	48	...	...	...	687
„ 1895	1	141	26	17	3	27	...	...	...	215
„ 1894	63	127	34	46	6	59	...	...	...	335
„ 1893	13	273	39	65	9	94	...	...	...	493
„ 1892	1	236	27	67	6	98	...	...	...	435
„ 1891	...	40	10	73	6	55	...	...	...	184

No. of cases of Infectious disease notified and isolated during each week of 1913.

Week ending	Scarlet Fever.		Diphtheria		Typhoid Fever.		Puerperal Fever.		Erysipelas.		Ophthalmia Neonatorum	
	Num-ber.	Iso-lated	Num-ber.	Iso-lated	Num-ber.	Iso-lated	Num-ber.	Iso-lated	Num-ber.	Iso-lated	Num-ber.	Iso-lated
Jan. 4.....	6	5	...	...	...	...	...	...	...	...	...	...
" 11.....	5	4	I	I	...	...	...	..	I	...	...	...
" 18.....	3	I	4	4	...	...	...	..	I	...	...	...
" 25.....	3	3	2	2	...	...	...	...	...	...	I	...
Feb. 1.....	3	3	3	2	...	...	...	...	...	...	...	...
" 8.....	6	5	2	2	I	I	...	...	...	...	...	...
" 15.....	5	5	I	I	...	...	...	...	3	...	...	...
" 22.....	7	4	4	3	...	...	...	...	2	...	...	...
Mar. 1.....	4	4	2	2	...	...	I	...	...	...	...	...
" 8.....	4	3	I	I	...	...	...	...	I	...	I	...
" 15.....	3	2	...	...	...	...	...	...	...	...	2	...
" 22.....	7	6	...	...	...	...	...	...	...	...	...	...
" 29.....	5	4	I	I	...	...	...	...	I	...	...	...
Apl. 5.....	3	3	3	2	...	...	...	...	...	...	...	...
" 12.....	3	3	2	2	...	...	...	...	...	...	...	...
" 19.....	3	3	...	...	I	I	...	...	...	...	...	...
" 26.....	3	3	I	I	...	...	...	...	...	...	...	...
May 3.....	...	...	2	2	...	...	...	...	I	...	...	...
" 10.....	3	3	2	2	...	...	...	...	I	...	...	...
" 17.....	7	7	I	I	...	...	I	...	...	...	...	...
" 24.....	3	2	...	...	...	...	...	...	I	...	...	...
" 31.....	...	...	I	I	...	...	...	...	...	...	I	...
June 7.....	...	...	...	...	I	I	...	...	I	...	...	...
" 14.....	...	...	I	I	I	I	...	...	...	...	...	...
" 21.....	I	I	I	I	...	...	...	...	...	...	...	...
" 28.....	7	7	3	2	...	...	...	...	I	...	...	...
July 5.....	11	11	...	...	...	...	...	...	I	...	...	...
" 12.....	9	7	I	I	...	...	...	...	...	...	2	...
" 19.....	2	2	...	...	I	I	...	...	...	...	2	...
" 26.....	I	...	I	I	...	...	...	...	2	...	...	...
Aug. 2.....	2	2	2	2	...	...	...	...	...	...	I	...
" 9.....	3	2	I	I	...	...	...	...	...	...	...	...
" 16.....	2	2	...	...	...	...	...	...	...	...	...	...
" 23.....	2	2	...	...	...	...	I	...	...	...	...	...
" 30.....	4	3	I	I	I	I	...	...	...	...	...	...
Sept. 6.....	I	I	2	I	...	...	...	...	I	...	I	...
" 13.....	I	...	...	...	...	...	...	...	...	...	...	...
" 20.....	I	I	I	I	...	...	...	...	...	...	...	...
" 27.....	8	7	2	2	...	...	...	...	...	...	...	...
Oct. 4.....	8	7	2	2	...	...	...	...	...	...	...	...
" 11.....	5	3	4	3	...	...	...	...	...	...	...	...
" 18.....	5	5	3	2	...	...	...	...	...	...	...	...
" 25.....	5	4	5	4	...	...	...	...	...	...	...	...
Nov. 1.....	I	I	4	3	...	...	...	...	I	...	...	...
" 8.....	...	...	I	I	I	I	...	...	...	...	...	...
" 15.....	I	I	3	3	I	I	...	...	...	...	...	...
" 22.....	5	5	2	I	...	...	...	...	I	...	...	...
" 29.....	I	I	I	I	...	...	...	...	...	...	...	...
Dec. 6.....	...	...	3	3	...	...	...	...	...	...	I	...
" 13.....	10	10	I	...	...	...	I	...	...	...	...	...
" 20.....	4	3	I	I	...	...	...	...	...	...	...	...
" 27.....	2	...	2	2	...	...	...	...	I	...	...	...

Smallpox.—No case was notified in the City during the year. The Hospital is always in readiness should a case occur.

Scarlet Fever.—There were 183 cases notified, but no less than 34 were secondary cases. There were four cases at the Cottage Homes, and five at St. Alban's Home, all very mild in character. Of the children attending the Elementary Schools 90 were attacked, and these were distributed among 23 different departments. Two of the Schools were closed, St. Stephen's Infants' School for 16 days in July, and St. Nicholas' Girls' School for a fortnight at the beginning of October.

Of the 183 cases, 158 were removed to the City Hospital *i.e.*, 86 per cent. The type of the disease was mild, only two deaths resulting during the year.

Diphtheria.—There were 81 persons notified with this disease, and 70 were removed to the City Hospital, *i.e.*, 86 per cent. One baby, aged 9 months was taken to the General Infirmary urgently requiring tracheotomy, which operation did not save its life.

Of the 81 cases, 39 were children attending the Elementary Schools, but distributed among 26 departments. There were 14 cases notified from the General Infirmary, one outbreak occurring in the second week in January, and the other towards the end of April in the Children's Ward. In consequence of the latter, every child admitted after that date had a swab of the fauces taken, and if found to be infected was at once isolated.

Three deaths took place, that of the baby above-

mentioned, and two children aged 4 and 7 years respectively.

Typhoid Fever.—Ten certificates were received during the year. Two of these were of persons admitted to the General Infirmary from districts outside the City, and are not included in the numbers recorded. One case was nursed at home, one at the Infirmary of the Workhouse, and six in the Wards of the General Infirmary. One of these patients died there, and the cause of death was certified as Broncho-pneumonia, so probably the diagnosis made in the early stage of the illness, before admission to the General Infirmary, was erroneous; another patient died of acute tuberculosis before the end of the year.

The drainage of the houses in which two of the patients lived was very defective. There was no inter-communication among the patients, and no common source of infection that could be discovered.

The eating of shellfish or other articles of food likely to contain the germs of the disease was not the cause of the illness in either of the patients so far as could be ascertained.

Puerperal Fever.—Four women were certified as suffering from this disease, and one death occurred. In this case the patient had a miscarriage, no doctor nor nurse was sent for, and the resulting illness necessitated removal to the General Infirmary and an operation, which failed to save her life.

Another certificate was sent of a woman admitted to the General Infirmary from outside the City.

In all cases the Midwives concerned obeyed the Rules of the Midwives Board, and no neglect on their part was found.

The Midwives Act, 1902.—During the year, notice of intention to practice was received from 22 midwives, 10 of whom were on the Staff of the Nursing Institution in the Tything.

There were no infringements of the Rules of the Midwives Board discovered during the year. In accordance with Rule 21, 151 records of sending for medical help were sent and 21 notices of stillbirths. The notices were in 89 cases because of some difficulty in parturition; in 23 because of feebleness of the child; in 12 because of illness of the mother. Notices of temporary rise of temperature were sent in eight cases, and of eye discharge in 16 cases.

Ophthalmia Neonatorum.—Twelve cases have been notified, and in all of them the eyesight of the child has been preserved. The medical men have promptly responded to the call for help sent by the midwives, and the district nurses and the Sister at the Ophthalmic Hospital have carefully treated the babies until well.

In the 12 cases there were at the birth—in five cases a midwife only, in four a medical man, in three no medical man nor midwife, and in two of these no preparation for the birth had been made.

Cerebro-spinal Meningitis.—No case has been notified in the City. Through England and Wales 304 cases have occurred.

Acute Poliomyelitis.—One case was reported in a young man aged 21, and his left leg became paralysed. A week

before his attack he got wet through when driving a van and remained damp for some hours.

Measles.—This disease has been very prevalent through most of the year. It passed through all the parts of the City, and eight of the Infant School departments were closed for various periods between the middle of February and November.

There were 32 deaths registered as due to this disease, and 29 of these occurred during the first quarter of the year, the other three during the second quarter, showing how great an influence the climatic conditions have on the number of deaths caused by this disease. There has not been so many deaths caused in any year since 1903 (see Table VI.).

Whooping Cough has not been epidemic. A few cases occurred in the early part of the year, and one death was recorded as due to this disease.

Diarrhoea and Zymotic Enteritis.—These diarrhoeal diseases which are especially fatal to infants and very young children caused 14 deaths. Seven more deaths were registered from Enteritis, which was probably also of a Zymotic character. As these diseases are mostly associated with unusual heat and dryness, the Autumn months are those in which the chief prevalence occurs. Thus in 1913 during the first six months of the year only three deaths were recorded, during the third quarter 10, and eight during the fourth quarter. The children are attacked through their food, and the food is contaminated by dust or by flies that have come into the house direct from garbage heap. This latter is the commonest method, and although in the

houses of the well-to-do it is not very difficult to protect the food from flies, it is very different in the houses of the poor.

The common house fly, *Musca Domestica*, forms 98 per cent. of all the flies found in dwellings. The fly deposits its eggs in decaying animal or vegetable matter. Horse manure forms the chief substance in which the larvæ are found, and heaps of stable manure are the principal breeding places of these insects. From 100 to 150 eggs are deposited at one time, and these hatch out in 9 or 10 days if the temperature is favourable, and this occurs five or six times during the life of each female fly. In 14 days the second generation will be depositing eggs, and so countless thousands are brought into existence in a few weeks. It is well known that flies feed on filth, and a large number of micro-organisms can be found on and cultivated from the bodies of flies.

In the Boer War the number of flies in the Camps was enormous. They swarmed in the latrines, in the hospital tents, and in the mess tents, and were, in the opinion of the medical staff, one of the chief causes of the spread of typhoid fever, which caused such havoc among the troops.

Dr. Niven, the Medical Officer of Health of Manchester, began in 1910 investigations into the relationship between the number of flies and the amount of diarrhoea prevalent. He found that the disease became more common as the flies became more numerous, and subsided as their numbers decreased.

The obvious way of lessening the fly plague is to remove as soon as possible all garbage from the neighbourhood of

houses, and especially to prevent the accumulation of stable manure. From the facts given above of the life history of the fly, it will be seen that *if all manure were removed from stables weekly* into the country, the eggs laid would not be hatched in the stable yard, and the surrounding houses would be comparatively free from flies. The occupiers of the stables find great difficulty in getting farmers or others who buy the manure to remove it at short intervals. This difficulty should be overcome in the interest of the health of the dwellers in a town, and if the occupiers of the stables co-operated as they might do, it would be solved.

The importance of the frequent removal of accumulations of refuse from the neighbourhood of houses is pointed out in a circular letter of the Local Government Board, dated July 25th, 1913, sent to all Sanitary Authorities. This circular says:—"Such accumulations provide breeding grounds for flies, and are otherwise open to serious objection. It is essential to the health of a district that there should be arrangements for the efficient and frequent removal of house, stable, and street refuse, and for its disposal under sanitary conditions."

The Notification of Births Act came into force in Worcester in April, 1908; it has worked smoothly and well.

During the five years, 1909-13, 5331 notifications have been received, of which 225 were of stillbirths, and 5106 of children born alive. Of the total notifications, 1107 were sent by the medical practitioners and 4224 by the midwives.

The Infant Health Inspector visits the house in which the infant is born on the 10th day after birth, and advises concerning all matters relating to the health of the mother and the baby.

Prevention of Infant and Child Mortality.

The Medical Officer of the Local Government Board gives in his Report for 1912-13 a table shewing that in England and Wales the percentage decline of infant mortality in 1912 as compared with 1901 was no less than 38 per cent. This decline was a steady one, with the exception of 1911, when there was a particularly hot and dry summer causing many deaths from diarrhœa.

The Registrar General in his Report for the year 1911 contrasts the infant mortality of the professional classes (41) with that of artisans (113), miners (160), unskilled labourers (152), and agricultural labourers (97), and remarks that the figures "show how little of our present infant mortality is essentially inevitable."

In Worcester the improvement in the infant death-rate was slight until 1908. Since that date it has been marked. The average rate for the five years 1904-08 was 132, for the five years 1909-13 it was 96, which amounts to a saving of 200 lives. An analysis of the causes of the deaths of infants during these last five years, shows the improvements has been chiefly in fewer deaths from the diseases caused by careless and ignorant feeding. This has been largely due to the work of the Infant Health Visitor. But the deaths due to prematurity, congenital defects, and

debility at birth have not decreased in number, and their proportion to the total deaths is therefore larger than it was five years ago.

Taking the deaths that occur during the first seven days after birth as almost entirely due to prenatal causes, the percentage of these to the total deaths under one year has been as follows:—In 1909, 21 per cent. ; in 1910, 24 per cent. ; in 1911, 18·5 per cent. ; in 1912, 31·5 per cent. ; in 1913, 29 per cent. Whatever the causes may be of this very brief hold on life, they are not such as up to the present time have come under the control of a Health Authority.

The Infant Health Visitor made special investigation into 22 deaths from prematurity during 1913, and in 1914 will continue this work, and will include inquiries into the cause of the stillbirths which during the last five years have averaged 45. Of the 22 deaths due to prematurity, eight occurred during the first five hours after birth, nine more before the end of the third day, and five more within a week. Only four of the mothers worked outside their own homes ; four were in very poor circumstances including two of those who worked in factories ; six of the children were the first-born in the family, and three others were of twin births.

The conditions during pregnancy that bring about premature births and the early deaths of infants, and those causing stillbirths and miscarriages, are probably closely allied. It is a serious matter that one pregnancy in every 12 results in a dead child, or in a child who survives less than a week.

Medical men in Worcester have found married women suffering from poisoning due to drugs taken to induce abortion. In so doing, the women have made themselves ill and have run the risk of a prosecution by the police. There is evidence in other towns that this practice is far from uncommon.

The chief ante-natal causes of this loss of life are syphilis, intemperance, and poisoning by drugs. The total loss to the community is very large, and the whole subject constitutes a serious social and economic problem.

The Work of the Infant Health Inspector.

This work has progressed very satisfactorily. The names of 901 infants have been entered on the Nurse's Register, and 4967 visits were made to the homes of these infants and of others who were born in preceding years.

Of the 901 infants, 61 were illegitimate, and 24 were born prematurely; 44 died before the end of the year, seven of these being illegitimate.

The causes of death were :—

Measles	...	...	...	1
Diarrhoeal diseases	...	...	...	13
Lung diseases	...	...	...	13
Premature birth	...	...	...	3
Wasting diseases	...	...	...	6
Tuberculosis	...	...	...	2
Syphilis	...	...	...	2
Other causes	...	...	...	4

Nurse McLeod found that in the 44 families where the baby died, nine of the mothers worked at home for payment, and four only left their homes to work—a very small proportion of the whole.

Three hundred and two messages were received from mothers seeking advice for their babies, and 71 messages to visit children over 12 months of age.

The Instruction Classes for Mothers have been continued on Friday afternoons during the winter months, and the average attendance was 58. The babies are brought to be examined and weighed, and if not progressing favourably the mothers are advised to consult their own doctor.

A new feature of great importance has been added to the work during the year. The mothers are being instructed how best to clothe their infants and the older children. Models of proper clothing are shown and paper patterns given. Infants' clothing is also being sold to the mothers at the price of the material, the garments being made by ladies connected with the Infant Health Society, and by the elder girls attending the Girls' High School and the City Secondary School. The demand for these garments at present exceeds the supply.

Table showing feeding, &c., of 901 Infants :—

Quarter.	Births Entered in Register.	Visits paid.	Mothers' Work.		Method of Feeding.				Insanitary Conditions found in Home.
			At Home.	Out.	Breast.	Bottle.	Both.	Unsuit- able.	
1st ...	239	1236	28	20	194	17	16	12	11
2nd ...	241	1340	16	28	192	20	19	8	8
3rd ...	200	1245	25	12	168	14	7	9	7
4th ...	221	1146	20	25	182	14	8	10	8
Totals ..	901	4967	89	85	736	65	50	39	34

All the insanitary conditions found by the Nurse are at once reported to the Sanitary Inspector and dealt with by him.

There were 127 of the mothers insured under the National Insurance Act, and 637 of the mothers received the Maternity benefit.

The Worcester Infant Health Society has continued its good work during the year. It has been enabled, by the generosity of its subscribers and of the various Charities of the City, to spend £42 in providing milk for infants needing it. The parents of the babies have contributed £26 towards the cost, making a total of £68 expended in milk. This milk fund is strictly supervised by a small Committee, and 107 families have been helped in this way.

The Society has also given dinners to mothers who are poor and who are nursing their babies, to enable them to continue to do so. The mothers have the meals at the Tudor Coffee House to ensure that the right person gets the food.

It would be very desirable if instruction and guidance could be given to expectant mothers. This would no doubt result in a still greater saving of infant life and in better health of the infant when born. It is done to some extent by the best midwives in the City, but so far no organised effort has been made in this direction.

Tuberculosis.

On February 1st of this year, by order of the Local Government Board, the notification of all forms of Tuberculosis became compulsory. On and after that date the medical practitioner was called upon to notify tuberculous disease of any organ of the body in patients that came under his care. A copy of the Order was sent to every known medical practitioner, and a book of new forms for notification.

The Regulations directed that the Medical Officer of Health shall cause such enquiries to be made and shall take such steps as may be necessary for investigating the source and preventing the spread of infection, and for removing any conditions that may favour infection. These enquiries are to be made in such manner as shall safeguard the individual, and the results are to be treated as strictly confidential.

The scheme for the treatment of Tuberculosis in the City, drawn up by the Health Committee, was laid before the Council in February, 1913, and received their approval. It has been in working throughout the year, excepting the part relating to the Open-air School, which has been delayed owing to difficulties in finding a suitable site. This matter is now in the hands of the Education Committee and is receiving their serious consideration.

Such a school will be a real measure for *prevention of this and other diseases*, a more effective and less costly procedure than endeavouring to cure disease when it has become established.

The Report to your Council for the year 1912 set out fully the methods that had been adopted in dealing with this wide-spread disease. They have all worked well through the year and without friction of any kind.

The following Table, suggested by the Local Government Board, gives a summary of the Notifications of all forms of Tuberculosis during 1913.

There were 160 primary Notifications, of which 129 were sent by the Medical Practitioners of the City, 12 by the Medical Staff of the General Infirmary, five by the Medical Officer of the Workhouse Infirmary, six by the School Medical Officer, and eight by the Tuberculosis Officer.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912.

Summary of Notifications from January 1st, 1913, to December 31st, 1913, and deaths of these persons occurring during that period.

Ages.	No. of Notifications on Form "A". Primary Notifications.													Total Notifications including cases previously notified by other Doctors.	No. of Notifications on Form "B."			No. of Notifications on Form "C."		
	Primary Notifications.														Total.	Poor Law.	Sanatoria.			
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and up	Total.	Under 5				5 to 10	10 to 15	New-town.	Knight-wick.
Pulmonary.																				
Males .....	...	1	2	9	5	6	11	14	10	1	5	64	15	67			2	10	40	11
Deaths.....	...	1	...	...	...	3	2	7	1	...	1									
Females .....	...	1	8	6	6	10	19	12	6	1	...	69	12	72	1	1	2	3	30	17
Deaths.....	...	...	...	...	...	2	2	...	2	...	...							
Non-Pulmonary.																				
Males .....	...	2	2	3	2	...	1	2	...	...	...	12	3	13						
Deaths.....	...	1	...	...	1	...	...	1	...	...	...						
Females	1	1	4	1	1	2	2	1	1	1	...	15	3	15						
Deaths.....	1	1	...	...	...	1	...	...	...	...	...				
	1	5	16	19	14	18	33	29	17	3	5	160	33	167	1	1	4	13	70	28

Form "A."—Notifications by Medical Practitioners of persons not previously notified.

Form "B."—Notifications by the School Medical Officer.

Form "C."—Number of persons admitted to Institutions. These figures relate to persons notified in 1913 and in previous years.

This is the first year of notification of Non-pulmonary Tuberculosis, so no comparison with previous years can be made.

In 1913 there were 133 primary notifications of Pulmonary Tuberculosis; in 1912 the number was 157. This disease is often of so chronic a character, that persons of the labouring classes have had it for many months before going to a medical man. So that for some time to come in many cases the date of contracting the disease will be long prior to the date of notification. It is to be hoped that education of the public will gradually change this, and that the cases will come under medical care at an early stage, when arrest of the disease may be hoped for.

In the above Table it will be seen that 33 persons notified died before the end of the year. In nearly all of these the disease was in an advanced stage, and any chance of recovery was small. So long as this state of things continues, the disease will surely spread.

Pulmonary Tuberculosis.—There were 133 primary cases notified :—

	Under 15 years.		Over 15 years.
Males	12	.....	52
Females	15	.....	54

Of the patients over 15 years, 39 males and 27 females were insured persons.

Although the women notified number two more than the men, the proportion who are insured is smaller, owing, of course, to the fact that many of them are not employed in such a way as to bring them into the class of insured persons.

An endeavour was made to ascertain the condition of the 133 persons at the end of the year with the following result :—

	Over 15 years.	Under 15 years.
Died before December 31st, 1913	26	1
Very ill on December 31st, 1913	9	3
Left the City	8	1
At work or able to work	44	12
At Knightwick.....	5	0
At Newtown.....	4	7
At Workhouse Infirmary.....	3	1
Not classified	7	2
	<hr/> 106	<hr/> 27

Of the 44 adults who are at work, 19 were men and 25 were women. Most of the men are in fairly good health, while a few are only struggling along, but were obliged to resume wage earning.

As regards the women, several of them ought to have remained longer at the Hospital, but they could not stay owing to the need of their presence at home, which could not be kept going by any other person than the mother.

Non-Pulmonary Tuberculosis.—The notifications numbered 27. They are classified as follows :—

Part affected.	Over 15 years of age.		Under 15 years of age.	
	Male.	Female.	Male.	Female.
Bones .....	...	2	1	...
Joints	1	2	...	1
Spine.....	1	...	1	1
Glands	1	...	2	3
Peritoneum	1	1	3	1
Kidneys .....	...	2	...	...
Meninges of Brain ...	...	...	1	2

All the children with Meningitis died, and also three of the six cases of Peritoneal Tuberculosis. One child left the City.

Six of the 27 cases were under treatment at the General Infirmary, and three others at the Infirmary of the Workhouse.

The glandular cases are mostly amenable to surgical treatment; but the joint and bone cases are very protracted in their character and frequently are under the surgeon's care for many months.

Of the 160 persons about whom primary notifications were received during the year, information concerning 150 has been obtained of the rent paid for the houses they occupied.

Family in houses rented under 3/- a week	...	37 = 24·6 per cent.	
„ „ „ from 3/- to 5/-	...	38 = 25·4	„
„ „ „ from 5/- to 7/6	...	55 = 36·6	„
„ „ „ over 7/6 a week	...	20 = 13·4	„

So that exactly one-half of the 150 families live in houses rented at less than 5/- a week, and therefore have no resources to fall back upon when a chronic sickness attacks one of the wage-earners, and not much chance of retaining the good health that residence at Sanatoriums gives them, unless material help is continued after their discharge.

Apart from the bad influence on the lungs of certain trades and work, and apart from intemperance, the factors mainly concerned in the spread of Tuberculosis are all those comprised in the problem of poverty. The people

live in small, bad houses because their rent must be low ; they have insufficient and ill-chosen food ; their clothing day and night is insufficient, and so the houses are shut up to keep the bodies of the inmates warm.

All these conditions act and re-act on one another, and the children in these families are often ill nourished and unable to resist disease. It is very difficult to collect statistical evidence on all points, but it is very striking the number of adults suffering from the disease who have a history of illness in childhood suggestive of tuberculous infection.

Institutional Treatment.—It is a well recognised fact that persons having consumption are very difficult to deal with in Hospital, and for various reasons much of the good resulting from residence in Hospital depends on the character of the person ; some are reasonable and willing and glad to learn ; others resent keeping rules that are necessary for their welfare and for the working of the Institution, and will not remain.

Knightwick Sanatorium.—During 1913 your Council had the use of four beds at Knightwick. The Guardians of the Poor Law had two beds, and Messrs. Fownes Bros. one bed. At the end of 1913 the three last-mentioned beds were relinquished by those subscribers, and the City Council began 1914 with seven beds at this Institution.

Those patients whose lungs were less seriously diseased were sent to Knightwick so far as circumstances permitted. In a few instances the patients preferred to go to Newtown as being nearer their home and friends.

As is shown in the table on page 27, 11 men and 17 women were admitted there from the City. Seven of the patients were sent there from the Newtown Hospital, where they had been admitted until a bed was vacant at Knightwick.

Newtown Hospital.—On page 38 of the Medical Officer's Report to your Council for the year 1912, the provision made temporarily at this Hospital was set out. In addition to the Wards, your Council provided five Shelters, making a total provision of 10 beds for males and nine for females. Only a few of the patients admitted were in an early stage of the disease.

The Shelters were most necessary, as some advanced cases of disease were admitted, and it would not have been right to put an early or doubtful case of the disease into a Ward containing such a case. The "early cases" were treated in the Shelters and remained in them during their stay.

There were 29 men and nine boys, and 22 women and eight girls admitted during the year. The women as a rule had a much less severe type of disease than the men, and responded better to treatment. Some of the men had advanced disease, but only one remained at the Hospital until death occurred. Five others returned to their homes shortly before they died. The children (under 15) all did well except one, and returned home with the disease arrested and in good condition.

The chief difficulty at Newtown has been the want of light work for the men who are able to do it. Many have

not been fit, but those who are find the time hang on their hands. The want of suitable occupation is harmful and demoralising, and when the new pavilions have been built provision should be made for outdoor games, and for gardening or other work of a light character.

The Tuberculosis Dispensary.—The work is carried on in the following manner :—When the notification of Tuberculosis is received from a medical man, the nurse visits the house and obtains some of the information necessary to fill up a schedule of the case. In a few instances the medical man has sent a note saying it is the patient's wish that no one should visit the house ; in such cases the medical man has filled in the Schedule himself. The nurse asks the patient if he will see the Tuberculosis Officer, and with the medical man's consent the patient is seen and examined either at his own home or at the Dispensary. Four patients declined to consult the Tuberculosis Officer. According to their condition and their wishes, the patients are treated at their homes by their own medical man, and the nurse visits them ; or are treated at the Dispensary by the Tuberculosis Officer ; or are sent to Knightwick Sanatorium or to Newtown Hospital. As the beds at Knightwick were so few several patients were admitted to Newtown and transferred to Knightwick as a bed became vacant.

Those patients who were notified when inmates of the General Infirmary or of the Infirmary of the Poor Law Guardians, were not visited nor seen until they were discharged from those Institutions.

The more important work of the Dispensary is the examination of "contacts" and doubtful cases. On the

Schedule mentioned above is a space for the name, age, work, and condition of health of every member of the household of a consumptive patient. Any of these whose health is unsatisfactory is asked to come to the Dispensary for examination, and in this way 10 definite cases of Tuberculosis of the lungs have been discovered, and have come under immediate treatment.

The following table classifies the patients who have been seen during the year :—

	Under 15.		15 and over.		Insured.		Non-insured.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Notified Persons.....	25	22	67	74	50	34	43	61
Sent by Medical Men	1	1	11	2	10	2	2	1
Contacts	7	20	3	15	3	9	6	27
Sent by Societies	1	8	1	6	...	2	2	12
Sent by School Medical Officer.....	5	10	5	10
	39	61	82	97	63	47	58	111

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Many more "contacts" ought to have been seen, but this is a new work and there has been some reluctance among the adults, and especially among the men, to be examined to ascertain if their lungs are healthy or otherwise.

Much more education of the public will be necessary before the preventive aspect of dealing with disease is understood by them. It is probable that many of the persons with indifferent health consulted their own medical man when advised by the nurse to do so.

There were 279 persons seen and advised at the Dispensary and many of them treated. They made 1416 attendances during the year. The clerical work, mostly of a medical character and therefore to be done only by the Tuberculosis Officer, is very considerable, and will naturally grow as patients continue attending the Dispensary year after year.

Many of the patients after a stay at Hospital and return to work are unwilling to come every two or three months to be seen, and the nurse has to look them up at their homes frequently to induce them to do so.

The Examination of Sputum from persons having or suspected to have Tuberculosis has been carried out free of charge to the patient. If the result is positive, no further examination need be made for some months; but if negative, repeated examinations are desirable if the patient continues to suffer from symptoms pointing to Tuberculosis of the lungs. During the year 176 examinations of sputum were made.

The Report of the Medical Officer of the Local Govern-

ment Board for 1912-13 contains a full account of the Board's work on Tuberculosis, and gives much valuable advice to which attention is here directed.

On page 53, Sir Arthur Newsholme writes:—

“The diagnosis of Pulmonary Tuberculosis ought to be made before tubercle bacilli are found in the sputum, and failure to recognise the disease prior to this implies that the disease has already become serious. But for some years to come in actual practice, a large proportion of cases requiring treatment will have tubercle bacilli in the sputum; and it is important that such cases should be kept separate for statistical purposes from cases in which no tubercle bacilli have been found.

The treatment of patients for whom permanent improvement is not expected.

It is fully recognised that, under present conditions, the majority of tuberculous patients treated at a Dispensary, and thence sometimes sent to Residential Institutions, have arrived at a stage of disease in which complete recovery does not occur. The reasons for this are not far to seek. Notwithstanding our increased knowledge of Consumption, a large proportion of adults will not seek advice until their disease has made serious strides. In its early stages Pulmonary Tuberculosis is difficult to recognise; and under past conditions of medical practice, a large number of cases have escaped recognition even when they were medically attended. Even when the disease was recognised, domiciliary treatment has often been continued under conditions detrimental to the patient. Not infrequently this has been owing to the fact that the patient could not afford to leave his work. As a result of

the above and other factors, a large number of patients have been treated in Sanatoria in whom recurrence of active disease was fairly certain at some subsequent period. The operation of the Medical Benefit under the National Insurance Act, and the accessibility to all medical practitioners of the tuberculosis officer for consultative purposes will ameliorate this state of matters, though some years will probably elapse before prompt diagnosis of all early cases of Tuberculosis is secured through active co-operation between the medical practitioner and the tuberculosis officer. The regulations for the notification of Tuberculosis, if properly utilised, will become increasingly effective in the same direction; for it is the duty of the medical officer of health, on receiving a notification, 'to take such steps as are necessary or desirable for investigating the source of infection, for preventing the spread of infection, and for removing conditions favourable to infection.' This can only be carried out satisfactorily by arranging for investigation of domestic and industrial conditions, and for the medical examination of all contacts who are willing to be thus examined. This is already being done in many districts.

At the present time, however, it must be recognised that a high proportion of the patients coming under treatment for Tuberculosis will not recover their health permanently or completely. This being so, it is well that treatment of such patients should be considered from the point of view of ordinary medical treatment. Every patient, when the Tuberculosis schemes are in full operation, will be entitled to treatment, whether his illness be curable or not. A Local Authority undertaking such treatment may have regard to economy, but, on the merits, this must

not be secured at the expense of the patient. Considered from the standpoint of the patient, the treatment of a considerable proportion of consumptives in Residential Institutions is most desirable. This is especially true for patients who are acutely ill, or ill with advanced disease, and who cannot be satisfactorily nursed in their own homes."

The Public Health aspect of the treatment of the consumptive patient :—

The question of treatment in Residential Institutions of patients suffering from Phthisis at a probably incurable stage cannot, however, be considered solely from the standpoint of the patient's own interest. Nothing should be done and nothing need be done contrary to these interests ; but public and personal interests alike point to desirability of treating the consumptive under conditions which will minimise the possibilities of acquirement of infection by contacts.

For reasons of economy, as well as because of the unwillingness of patients to leave home, a large proportion of the infective lifetime of every consumptive and the whole of the lifetime of others will necessarily be spent at home. Measures for securing that he shall not be a source of massive infection to others must be reconciled with this economic consideration. Much can be done to secure this in connection with domiciliary treatment or attendance at a Dispensary, when associated with the oversight of the home conditions of patients. But experience has shown that in such cases, home supervision is much more efficient when preceded by a short term of stay in a Sanatorium or Hospital for Tuberculosis, in

which the patient is trained in the hygienic and general management of his condition, including the proper use of sputum flasks, etc.

As your Tuberculosis Officer has been for many years your Medical Officer of Health, the Public Health point of view has been that from which advice has been given and action taken. Endeavours have been made to persuade even those patients who were seriously ill to take advantage of the Hospital accommodation provided, although no hope of recovery was entertained. Even a short stay sufficed in some cases to teach habits of carefulness, which if practised in their homes would go far to lessen the risk of spreading the disease.

Care Committee.—There is much work in connection with Tuberculosis that cannot be performed by a Public Health Authority. Much help has during the past year been given by the Charity Organisation Society and Parochial Societies to patients in various ways. The poorer persons have not, as a rule, the requisite warm clothing for an open-air life, nor the means to provide it when asked to do so. Monetary help may be requisite to provide separate sleeping accommodation and an additional bed. Women with young children find great difficulty in accepting hospital treatment because of the want of care that their children may suffer from during their absence, and when arrangements have been made for the family, the mother will not remain in Hospital long enough owing to her anxiety as to their welfare. After their return home many patients require extra food and help to obtain suitable employment.

All these things a Voluntarily Organised Care Committee can undertake and can give most valuable help in co-operation with the Health Authority and Local Insurance Committee. It is very desirable and necessary that such a Care Committee should be constituted in Worcester at as early a date as possible.

Your Tuberculosis Officer has acted as Medical Adviser to the City Insurance Committee, according to the terms of the agreement entered into between them. In consequence of the provision by the City Council of the beds for Pulmonary Tuberculosis, there has been no case of an insured person who applied for Sanatorium benefit, and who was found eligible by the Insurance Committee, that was not promptly dealt with and sent to Knightwick Sanatorium or to the Newtown Hospital if the patient's condition was likely to be benefited by a stay at either Institution.

Anthrax.—Two cases in men have been reported, the certificates being sent to the Secretary of State at the Home Office, as the disease was contracted at a factory where skins are made into leather.

In both instances the men had been handling dry Turkish goat skins, carrying them over their shoulders from a loft to the soaking pits.

The patients were treated with Slavo's serum at the General Infirmary, and both of them recovered.

The Isolation Hospital.

The following table shows the number of admissions into the Isolation Hospital for the year 1913, and for the 22 years preceding :—

Year.	Smallpox.	Scarlet Fever.	Diphtheria.	Typhoid Fever.	Measles.	Total.
1891	...	24	...	20	1	45
1892	1	107	4	9	1	122
1893	12	143	...	8	1	164
*1894	8	45	7	11	1	72
1895	...	79	6	5	...	90
1896	...	53	137	1	...	191
1897	...	82	70	1	...	153
†1898	...	214	73	...	...	287
1899	...	228	73	...	...	301
1900	...	79	58	...	1	138
1901	...	58	62	1	...	121
1902	...	203	17	1	...	221
1903	...	127	7	...	...	134
1904	...	52	18	1	...	71
1905	...	92	44	...	...	136
1906	...	128	95	...	...	223
1907	...	87	87	6	...	180
1908	...	85	74	...	...	159
1909	...	123	53	...	...	176
1910	...	114	73	...	...	187
1911	...	70	81	...	...	151
1912	...	145	66	...	...	211
1913	...	157	70	...	...	227

*In this year a separate Smallpox Hospital was established.

†The New Hospital in the Newtown Road was opened in April.

Table shewing the number of patients who were admitted, discharged, and died during each month of 1913:—

	Scarlet Fever.			Diphtheria.		
	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.
January ...	11	14	...	8	4	...
February ...	19	14	...	7	10	...
March	18	19	1	3	6	...
April.....	11	19	...	7	1	1
May	12	14	...	4	4	...
June	10	15	...	4	6	...
July	19	6	...	4	4	...
August	11	21	1	3	3	...
Sept'mber...	14	5	...	7	4	1
October ...	14	8	...	12	7	...
Nov'mber...	8	20	...	5	9	...
December...	10	9	...	6	8	...
Total.....	157	166	2	70	68	2

The following is a Table shewing the number of admissions and deaths under various age-groups :—

	Under 5 years.		5 to 10 years.		10 to 15 years.		15 to 20 years.		Over 20 years.	
	Admissions	Deaths	Admissions	Deaths	Admissions	Deaths	Admissions	Deaths	Admissions	Deaths
Scarlet Fever	28	1	78	1	39	...	7	...	5	...
Diphtheria	10	1	35	1	8	...	3	...	14	...
TOTAL.....	38	2	113	2	47	...	10	...	19	...

	Scarlet Fever.	Diphtheria.
In Hospital, January 1st, 1913	31	3
Admitted during the year	157	70
	188	73
Discharged during the year.....166 } 168	68 2	70
Died 2 }		
Remaining in Hospital, Dec. 31, 1913	20	3

All the patients (227) treated during the year came from the City, none from outside districts.

There were two deaths from Scarlet Fever one of a girl aged $2\frac{1}{2}$ on the third day after admission, and the other a boy aged 7 on the eighth day after admission. There were two deaths from Diphtheria both girls, one aged 7 died on the third day, and the other aged 4 on the fifteenth day after admission, the latter from heart paralysis due to the poison of the disease.

Swabs are taken on admission from the throats of all the Scarlet Fever patients, and in only one instance were the Diphtheria bacilli found. One patient a week after admission, developed Measles which did not spread. Twelve of the patients were admitted in the desquamating stage of the disease.

There were five children discharged during the year who gave the disease to another member of their family after their return home. These children all had enlarged tonsils and some adenoidal growths, and after their return home a nasal discharge occurred which proved to be of an infectious character.

There were 70 patients admitted to the Diphtheria wards. In three of these swabs taken on admission proved negative. A dose of antitoxin was given and in a few days when a second swab had confirmed the absence of the Diphtheria bacillus, they were sent home. In one case the disease proved to be Scarlet Fever, and the patient was moved to that ward.

Tuberculosis Patients at the City Hospital.—There

were 10 beds available for men and nine for women during the year. It was not possible to keep them all occupied owing to the fact that some of the patients admitted were so ill that the small ward containing three beds had to be used solely by one patient. One such patient was an inmate for $3\frac{1}{2}$ months and died there. Seven men and two women were admitted for a week or so, and were sent on to Knightwick when a bed there became vacant.

There were 29 men admitted of whom 24 were insured persons. Six of these men declined to remain for the period ordered by the Insurance Committee. Four of them had advanced disease and all died at home in a few weeks. There were also 10 boys treated who all did well. Ten of the 29 men were notified during 1912, two during 1911, and one during 1909; the remainder, 16, were notified during 1913.

There were 20 women admitted of whom 15 were insured, and nine girls. Five of these patients had been notified during 1912, and one during 1911.

Generally speaking the disease was in a less advanced stage in the women than in the men, and the improvement in their condition on discharge was much greater. Some of the women, who were mothers of families should have remained a longer time, and would have done so had not the demands of the home appealed more to them than the state of their own health. This is one point where a Voluntary Care Committee can be of the greatest value.

During the year your Medical Officers paid 213 visits to the Hospital. The time spent at the Hospital has necessarily been much longer than in former years, owing

to the number of Tuberculosis patients who were inmates and who require more attention than do the patients suffering from Scarlet Fever and Diphtheria, whose illnesses are often of a very mild character.

The disinfecting apparatus was used 164 times, and 4353 articles were passed through. This is a large increase on the work of former years and is mostly due to the disinfection from the rooms of persons suffering from Tuberculosis.

The Needlework Guild continued their usual grant of clothing which is given to the poorest of the patients on their discharge. The Railway Mission again shewed their kind interest in the patients at Christmas and other times.

The Matron, Miss Glew, has proved herself most capable and efficient. Her Staff has worked loyally and well during the year. The temporary arrangements for treating the Tuberculosis patients have caused much extra labour, which has been carried on cheerfully, but everyone engaged in working the Hospital will be very glad when the new pavilions are ready for occupation.

The Water Supply.

The City Engineer has during the year sent to the Health Department 61 reports of analyses made by the City Analyst, 53 of these being bacteriological and eight chemical analyses. All the samples for bacteriological examination are taken once a week from the pure water tank.

In only one sample did the micro-organisms exceed 50 in 1 c.c. of the water, shewing the care that was taken in the filtration and the great success attained.

In 29 samples no Bacilli Coli were found in 100 c.c.; in 14

samples one only was found ; in five samples two, three, or four were found ; in four samples the Bacilli Coli were respectively 6, 10, 12, and 14 in 100 c.c.

In Dr. Houston's "Studies in Water Supply" on page 168 he says :—

“The Bacilli Coli test having now survived the various vicissitudes of an earlier time, stands to-day as the most practical and delicate and rapid test for excremental filth, and may surely be taken as the most reliable indicator in its positive aspects of possible danger, and in its negative aspects of the almost certain absence of microbes associated with epidemic water-borne disease.”

The Housing Acts.

The work under these Acts has been assiduously carried on during the year. The Inspector who does the work has many other duties to perform, so that part only of his time is given to this work and the clerical duties attendant on it.

There were 313 houses inspected and the details scheduled. Of these, 110 were represented to the Health Committee as unfit for human habitation, and in 104 cases Closing Orders were made by the Committee.

The situation of the houses that were represented are here given, and their condition at the end of March, 1914. In some cases the work of renovation has not yet commenced.

List of houses represented to the Health Committee
during 1913.

Designation of property.	No. of houses.	No. of Closing Orders made.	Houses made fit.	Houses demolished.	Houses being repaired.	Remarks.
Mill House, Gregory Mill Street	1	1	1	...	...
Tybridge Street, Court 7, Houses Nos. 1, 2, 3 ...	3	3	3	...	...
Rack Alley, Nos. 2, 3, 6 ...	3	3	...	3	...	Site purchased by Corporation for an open space
Tybridge Street, Nos. 88 and 90	2	2	...	2	...	
Severn Street, Pleasant Row, Nos. 1, 2, 3, 4.....	4	4	4	...	...
Severn Street, Court 3, No. 1, and Nos. 44, 46, 48 .	4	4	3	...	...	1 closed voluntarily To be used for cement stores.
Foundry Alley, Nos. 6 and 8 and Court 3, No. 1.. ...	3	3	...	...	...	Demolition order made.
Beaver Row, Nos. 5, 6, 7, 8, 9, and Court 1, Nos. 1, 2	7	7	5	2	...	2 houses in Court demolished voluntarily.
Little Park Street, Nos. 38, 40, 42	3	3	3	...	...
Waterloo Street, Nos. 27, 29, 31, 33	4	4	1	...	...	3 closed voluntarily To be used for storage purposes only.
Wellington Street, Nos. 10, 10a, 12	3	3	3	...	...
Birdport, Nos. 11, 13, 15 ...	3	3	...	3	...	Purchased by the Corporation for Street Improvement.
Birdport, Nos. 17, 19, and Hare's Lane, No. 1 ...	3	3	...	3	...	
Hare's Lane Court 1, Nos. 1, 2, 3, 4	4	4	...	4	...	
Silver Street, Court 1, Nos. 12, 13, 14.....	3	3	...	...	...	Demolition order made.

Designation of property.	No. of houses.	No. of Closing Orders made.	Houses made fit.	Houses demolished.	Houses being repaired.	Remarks.
Little Park Street, Nos. 34, 36, & Court 2, Nos. 1, 2	4	4	3	1	...	House in Court demolished voluntarily.
Windsor Place, Nos. 11, 12, 13, 14, 15.....	5	5	4	1	...	No. 11 demolished voluntarily.
Merrivale, Nos. 5, 7, & Court 2, No. 1, and Church Court, Nos. 1, 2, 3.....	6	6	5	...	...	2 houses converted into one.
Friar Street, 7, 9, 11, and Court 6, Nos. 1, 2	5	5	...	...	5	
St. Martin's Gate, Nos. 5, 7, and Court 1, Nos. 1 to 10	12	12	12	...	...
Charles Street, Nos. 28, 28a, 30	3	3	...	...	...
St. Martin's Gate, Nos. 9, 13, 15, 15a, 15b	5	5	...	...	...
St. Martin's Gate, No. 21, and Court 2, Nos. 1, 2, 3	4	4	...	...	...
St. Martin's Gate, Court 3, Nos. 1, 2, 3, 4.....	4	...	...	...	4	
St. Martin's Gate, Court 5, Nos. 2, 3, 4	3	3	...	...	...
York Place, No. 32.....	1	1	1	...	...
Shambles, two houses behind No. 37	2	...	...	...	2	
Sidbury, Court 11, Nos. 1, 2, 3, 4, 5, 6	6	6	...	...	...
	110	104	48	19	11	

It will be noted that more than one-third of the houses scheduled have been represented as unfit for habitation, and Closing Orders were made respecting 104 of these. The remaining houses were dealt with under the Public Health Acts, and the defects found are summarised in the following table supplied to me by the Inspector :—

Summary of work done under the Housing Acts during
1913 :—

No. of houses inspected during 1913	...	...	313
No. of houses back-to-back	...	...	57
„ with through ventilation	...	...	166
„ with no through ventilation	...	...	74
„ with cross ventilation	...	...	16

Notices have been served to have the following sanitary improvements carried out :—

Windows made to open top and bottom	...	...	93
Proper ventilated food cupboards provided..	...	...	86
Damp walls remedied	...	...	54
Rooms cleansed and limewashed...	...	...	91
Dilapidated walls, floors, roofs, spouting, &c., repaired			77
Glazed stoneware gullies fixed	...	...	25
New w.c's provided	...	...	8
Removal of accumulation of refuse	...	...	10
Wash-houses put into good order	...	...	32
Yards repaved or repaired	...	...	19
Glazed stoneware sinks fixed	...	...	31
W.c's repaired and limewashed	...	...	28
„ flushing cisterns repaired	...	...	5
„ provided with new basins and traps	...	...	7
Houses provided with a proper water supply	...	...	16
Miscellaneous improvements	...	...	83
No. of Notices (Preliminary) issued	...	...	160
„ (Statutory)	...	...	36

It will be seen that of the 313 houses no less than 131 were either back to back or had no through ventilation. This type of house is most unwholesome, and the defect is often difficult to remedy.

The following table gives a summary of the work done during the last three years and the condition of the houses on March 31st, 1914:—

	1911	1912	1913	Total.
No. of houses inspected and scheduled	358	322	313	993
Represented as unfit for habitation	67	88	110	265
Dealt with under the Public Health Act ..	291	234	203	728
<hr/>				
Of the houses represented Closing Orders were made	64	86	104	254
<hr/>				
Houses demolished.....	35	30	19	84
Houses made fit for habitation ...	28	47	48	123
Made part of adjoining house or converted into storerooms ...	4	9	5	18
Demolition orders made recently .	...	...	12	12
Houses under repair .....	...	...	17	17

In the month of December, enquiry was made among the House Agents of the City and it was found that there were about 120 houses of small rental vacant at that time, so that there are plenty of houses available for the working classes in Worcester.

CENSUS OF ENGLAND AND WALES. VOLUME VI,
1911.

1901.

Worcester, City of, C.B.	Total. 2	Total (cols. 4 to 11). 3	Buildings used as Dwellings.							Separate Flats (included in Col. 5). 12	Buildings not used as Dwellings.	
			4 Ordinary Dwelling- houses.	5 Blocks of Flats.	6 Shops.	7 Hotels, Inns, and Public Houses.	8 Offices, Warehouses, Workshops, and Factories.	9 Institutions.	10 Others.	11 Vessels, Sheds, Vagrants, etc.	13 Kind of Building.	14 No.
Number inhabited.....	10475	10985	9841	7	734	205	58	107	33	...	Places of Worship .. Government and Municipal Buildings	38
Separate Occupiers ..	10718	11220	10018	22	745	207	60	111	37	20		10
Population	46624	47982	41709	43	3169	1050	222	1609	131	49	Shops	307
											Offices	56
Uninhabited	1042	774	729	1	35	1	3	5	...	...	Warehouses, Work- shops, Factories .. Theatres and other places of amusement	192
Being built	59	19	17	...	2	...	...	...	...	...		4

Note.—An uninhabited dwelling is one in which no person passed the night on which the Census was taken.

	Average Number of Persons per Inhabited Building.		Average Number of Persons per family.		
	1901	1911	1901 All Dwellings.	1911 All Dwellings.	Ordinary Dwelling Houses.
Worcester, City of, C.B. ...	4.45	4.37	4.35	4.28	4.16
Average number of persons per build- ing in County Boroughs ...		4.99			
In other Urban Districts ...		4.85			
In Rural Districts ...		4.51			

DURING THE YEAR 1913.

NOTE.—The Deaths of Non-Residents occurring in Public Institutions situated in the District are excluded, and the Deaths of Residents occurring in Public Institutions situated beyond the limits of the District are included.

[illegible]

TABLE I.—VITAL STATISTICS OF WHOLE DISTRICT DURING 1913 AND PREVIOUS YEARS.

Year.	Population estimated to middle of each year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS		NETT DEATHS BELONGING TO THE DISTRICT.			
		Un-corrected Number.	Nett.		Number * 6	Rate. 7	of Non-Residents registered in the District. 8	of Residents not registered in the District. 9	Under 1 Year of Age.		At all Ages.	
			Number	Rate.					Number * 10	Rate per 1000 nett births 11	Number. * 12	Rate. 13
1	2	3	4	5	6	7	8	9	10	11	12	13
1908	47,612	1180	—	24·7	834	17·5	31	15	133	113	818	17·1
1909	47,749	1147	—	24·02	713	14·9	23	16	114	100	706	14·7
1910	47,885	1095	—	22·8	736	15·3	43	12	129	117	705	14·7
1911	48,021	1071	1073	22·3	737	15·3	35	27	108	100	729	15·2
1912	48,152	1009	1010	20·97	634	13·16	57	23	76	75	600	12·46
1913	48,287	930	930	19·25	711	14·72	54	29	83	89	686	14·2

*In Column 6 are to be included the whole of the deaths registered during the year as having actually occurred within the district.

In Column 12 is to be entered the number in Column 6, corrected by subtraction of the number in Column 8 and by addition of the number in Column 9. Deaths in Column 10 are to be similarly corrected by subtraction of the deaths under 1, included in the number given in Column 8, and by addition of the deaths under 1 included in the number given in Column 9.

Area of District in acres
(exclusive of area
covered by water). }

3185

Total population at all ages ... 47,982 } At Census
Number of inhabited houses ... 10,985 } of
Average number of persons per inhabited building . 4·37 } 1911.

TABLE II.—VITAL STATISTICS OF SEPARATE LOCALITIES IN 1913 AND 10 PREVIOUS YEARS.

NAMES OF LOCALITIES.	1. ALL SAINTS.				2. ST. NICHOLAS.				3. ST. JOHN.				4. ST. PETER.				5. ST. MARTIN.				6. SOUTH CLAINES.			
	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
YEAR.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.
1903 ...	5656	169	146	46	5006	105	87	25	7636	199	117	29	9461	244	148	34	8451	233	98	29	10684	334	183	45
1904 ...	5668	218	132	31	4994	87	89	21	7665	188	121	30	9415	243	137	29	8565	231	119	35	10722	289	153	31
1905 ...	5679	173	127	32	4983	104	89	14	7694	190	131	28	9370	233	146	42	8680	229	121	25	10760	271	153	42
1906 ...	5691	206	105	23	4971	91	73	11	7723	208	126	28	9324	217	142	32	8794	248	117	25	10798	259	153	27
1907 ...	5702	172	156	37	4960	75	84	12	7752	191	116	23	9278	242	176	40	8909	240	134	30	10836	251	152	17
1908 ...	5713	186	135	34	4948	75	88	13	7781	178	160	24	9233	237	139	27	9023	243	128	19	10874	261	168	17
1909 ...	5725	165	134	33	4937	94	77	6	7810	171	96	12	9187	242	137	18	9138	222	132	22	10912	248	130	21
1910 ...	5736	166	125	31	4925	83	73	10	7839	199	93	16	9141	226	127	21	9252	203	126	25	10950	214	161	26
1911 ...	5750	130	131	30	4912	84	83	7	7876	152	109	10	9085	219	132	13	9395	205	125	31	10997	232	152	19
1912 ...	5762	179	98	17	4900	72	65	5	7905	151	100	6	9050	234	108	18	9510	209	100	19	11038	222	129	11
Averages of Years 1903 to 1912.	5708	176	128	31	4953	87	80	12	7768	182	116	20	9254	233	139	27	8971	226	120	26	10857	258	153	25
1913 ...	5775	142	123	12	4890	83	70	8	7935	164	104	5	9015	230	150	27	9725	188	105	18	11080	212	134	13

TABLE III.
BIRTHS AND DEATHS OCCURRING IN WARDS.

Ward.	Population estimated to the middle of 1913.	Total Deaths.	Death-rate.	Births.	Birth- rate.	Deaths under 1 year.	Infant Death- rate.
All Saints ...	5775	123	21·2	142	24·5	12	85
St. Nicholas..	4890	70	14·3	83	16·9	8	97
St. John	7935	104	13·1	164	20·6	5	30
St. Peter	9015	150	16·6	230	25·5	27	117
St. Martin ...	9725	105	10·7	188	19·3	18	95
South Claines	11080	134	12·1	212	19·1	13	61

TABLE IV.
ANALYSIS OF DEATHS OCCURRING IN WARDS.

Ward.	Males.	Females.	Total.	Age.				
				Under 1 year.	1—5 years.	5—25 years.	25—65 years.	Over 65 years.
All Saints.....	70	53	123	12	20	9	39	43
St. Nicholas	31	39	70	8	9	3	16	34
St. John.....	50	54	104	5	2	9	38	50
St. Peter	76	74	150	27	19	11	49	44
St. Martin.....	47	58	105	18	13	5	29	40
South Claines ...	168	66	134	13	9	7	56	49

TABLE V.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1913.

NOTIFIABLE DISEASE.	NUMBER OF CASES NOTIFIED.							TOTAL CASES NOTIFIED IN EACH WARD.						Total cases re-moved to Hospital		
	At all Ages.	At Ages—Years.						1	2	3	4	5	6			
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.								65 and upwards.	
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria (including Membranous Croup)	80	1	46	11	6	1	3	7	12	17	14	18	12	3	25	70
Erysipelas	21	1	2	2	4	9	1	6	1	3	2	6	3	30	158	—
Scarlet Fever	183	—	30	135	9	8	—	24	8	60	36	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever	8	—	—	2	3	2	1	1	1	1	—	3	2	—	7	—
Relapsing Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Continued Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Fever	4	—	—	—	4	—	—	—	—	2	—	—	—	1	2	—
Cerebro Spinal Meningitis	1	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—
Poliomyelitis	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Pulmonary Tuberculosis	133	—	2	25	27	57	18	4	11	35	20	23	22	7	62	—
Other forms of Tuberculosis	27	—	4	10	5	6	2	—	4	4	3	6	7	2	—	—
Ophthalmia Neonatorum	12	12	—	—	—	—	—	—	3	1	1	2	5	—	—	—
Totals	470	14	51	221	58	87	32	7	66	39	123	76	89	77	237	—

Isolation Hospitals—Newtown Road Isolation Hospital in District of Droitwich Rural Authority.

Small-pox Hospital, Tolladine Road

Sanatorium at Knightwick for Tuberculosis.

TABLE VI.
DEATHS FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES IN 1913, COMPARED
WITH THE PRECEDING TEN YEARS.

Year.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.			Diarrhoea.	TOTAL.	Zymotic Death-rate	Pulmonary Tuberculosis	All forms of Tuberculosis
						Typhus.	Typhoid.	Con- tinued.					
1903	38	8	5	3	...	1	...	17	72	1·4	52	89
1904	12	...	1	4	...	...	...	22	39	0·8	64	90
1905	3	3	7	...	1	...	14	28	0·58	64	97
1906	3	7	6	...	1	...	13	30	0·61	75	96
1907	24	...	6	24	...	4	...	8	66	1·35	63	90
1908	21	1	9	13	...	1	...	6	51	1·03	62	91
1909	8	2	3	2	...	2	...	16	33	0·68	54	76
1910	12	2	5	1	...	1	...	15	34	0·55	61	87
1911	22	1	12	14	...	1	...	19	69	1·43	65	83
1912	12	1	6	1	...	...	...	7	26	0·47	45	59
Average of the preced- ing ten years	...	14·9	2·1	5·7	7·5	...	1·2	...	13·7	44·8	·89	60·5	85·8
1913	32	2	3	1	...	3	...	14	54	1·11	67	79

TABLE VII.

INFANT MORTALITY 1913. NETT DEATHS FROM STATED
CAUSES AT VARIOUS AGES UNDER ONE YEAR OF AGE.

CAUSE OF DEATH.				Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total Deaths under One Year.
ALL CAUSES	Certified ...	...	...	24	8	1	2	35	13	15	9	11	83
	Uncertified...	...	...	...	...	...	...	...	...	...	...	...	...
{	Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox ...	...	...	...	...	...	...	...	...	...	...	...	...
{	Measles ...	...	...	...	...	...	...	...	...	...	...	1	1
	Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...	...	...
{	Whooping Cough ...	...	...	...	...	...	...	...	...	...	...	...	...
	Diphtheria and Croup ...	...	...	...	...	...	...	...	...	...	...	1	1
{	Erysipelas ...	...	...	...	...	...	...	...	...	...	...	...	...
	Tuberculous Meningitis ...	...	...	...	...	...	...	...	...	...	...	1	1
{	Abdominal Tuberculosis ...	...	...	...	...	...	...	...	...	...	...	...	...
	Other Tuberculous Diseases ...	...	...	...	...	...	...	...	...	...	...	...	...
{	Meningitis (<i>not Tuberculous</i>) ...	...	...	...	...	...	...	...	...	...	...	...	...
	Convulsions ...	...	...	2	...	...	...	2	...	...	...	...	2
{	Laryngitis ...	...	...	...	...	...	...	...	...	...	...	...	...
	Bronchitis ...	...	...	...	...	...	...	...	1	...	1	2	4
{	Pneumonia (all forms) ...	...	...	...	...	1	1	1	3	1	1	4	10
	Diarrhoea ...	...	...	...	...	...	...	...	2	4	2	1	9
{	Enteritis ...	...	...	...	...	...	...	...	1	2	2	1	6
	Gastritis ...	...	...	...	...	...	...	...	1	...	...	...	1
{	Syphilis ...	...	...	...	...	...	...	...	2	...	...	...	2
	Rickets ...	...	...	...	...	...	...	...	...	...	1	...	1
{	Suffocation, overlying ...	...	...	1	...	...	...	1	...	1	...	...	2
	Injury at Birth ...	...	...	1	...	...	...	1	...	...	...	...	1
{	Atelectasis ...	...	...	3	...	...	...	3	...	...	...	...	3
	Congenital Malformations...	...	...	2	1	...	...	3	2	1	...	...	6
{	Premature Birth ...	...	...	13	6	1	1	21	1	...	...	...	22
	Atrophy, Debility, and Marasmus ...	...	...	1	1	...	...	2	...	6	1	...	9
{	Other Causes ...	...	...	1	...	...	...	1	...	...	1	...	2
				24	8	1	2	35	13	15	9	11	83

Nett Births { legitimate 851.
in the year { illegitimate 79.

Nett Deaths { legitimate infants 72.
in the year of { illegitimate infants 11.

Sanitary Inspector's Annual Report for 1913.

*To the Urban Sanitary Authority of the County and
City of Worcester.*

Mr. Mayor and Gentlemen,

I herewith present a Report and Summary of the work carried out in my Department during the year 1913, this being the Ninth Annual Report I have had the pleasure of submitting to you.

During the year 2045 Nuisances were discovered, to abate which it was necessary to serve 1034 Preliminary or Request Notices, and to write numerous letters to various owners and occupiers. Further, in consequence of the Request Notices not being complied with, your Health Committee ordered me to serve 148 Statutory Notices.

In 16 instances I had to obtain instructions from your Committee to institute legal proceedings for failing to comply with the Statutory Notices, but it is satisfactory to report that only one summons was taken out, as the work required to be done was put in hand after written intimation of the intended proceedings had been sent to the persons concerned.

In the summons referred to the Magistrates made an order prohibiting the use of two houses for human habitation, and fined the owner 10s. Subsequently a further fine of £2 10s. was inflicted upon the owner for allowing the houses to be occupied before the prohibition order had been rescinded.

The following table shows the number of Notices served during the past five years :—

	1909	1910	1911	1912	1913
Preliminary Notices.....	1268	1007	1139	1069	1034
Statutory Notices.....	60	69	91	158	148

SUMMARY OF WORK DONE DURING 1913.

Number of Notices (Preliminary) issued	1034
„ „ (Statutory) „	148
„ Complaints received and investigated	193
„ Letters sent with regard to notices, etc.....	734
„ Notices sent to Schools <i>re</i> Infectious Disease...	335
Rooms cleansed and limewashed	492
Dilapidated walls, floors, windows, etc., repaired	178
Defective roofs and spouting repaired	88
Damp walls cured	118
Washhouses repaired, cleansed and limewashed	249
„ floors and yards repaved and repaired	54
Glazed stoneware sinks fixed	67
Sink waste and rainwater pipes disconnected from drain...	35
Drains opened and cleansed	117
Defective drains repaired or reconstructed	91
Glazed stoneware gully traps fixed	83
Ventilating shafts fixed or repaired.....	34

Inspection chambers or manholes constructed	21
Old privies converted into water closets or pail closets ...	20
Water closets repaired, cleansed and limewashed.....	93
„ provided with water supply	—
„ flushing tanks repaired.....	62
„ provided with new basins and traps	61
Defective joints in pans, traps, and flush pipes repaired ...	20
Nuisance from overcrowding abated	17
„ improper keeping of animals.....	33
Accumulations of manure removed	46
Houses provided with proper water supply	13
Sanitary dustbins provided	127
Miscellaneous	92
Wastes of water reported to Water Inspector	24
Number of references to City Engineer with regard to dangerous buildings, paving of Courts, and foul street gullies.....	38
Emptying of ashpits and dustbins referred to the Streets Superintendent.....	12
Workshops cleansed and limewashed.....	11
Factories and workshops provided with suitable sanitary accommodation	12
Rooms disinfected after infectious disease.....	370
Samples of food and drugs collected for the City Analyst	138
Samples of tap and well water „ „ „	12

HOUSE INSPECTION.

The Assistant Inspector, Mr. J. Sheppard, is engaged day by day in house-to-house inspection, and all insanitary conditions and ordinary nuisances as soon as they were discovered received immediate attention. In an ancient City like Worcester, which abounds in Courts and Alleys, there are a number of premises

which require constant attention owing in a great measure to the careless habits of the occupiers, and to defects which are constantly recurring in these old properties.

The work done under the Housing Acts is not included in the foregoing summary, as full particulars are given in the Report of the Medical Officer of Health.

SANITARY ACCOMMODATION, REFUSE REMOVAL.

Twenty privies have been converted, three into water closets connected to the City sewers and 17 into pail closets. Five of these pail closets were provided at St. George's Walk, and 10 in the Lansdowne Road on the East side of the Canal Bridge ; in neither situation was a sewer available. Your Council decided to undertake the weekly cleansing of these pail closets. There now remains 42 houses with 26 privy pits within the City, all situated in parts such as Tolladine Road, Bilford Lane, etc., where no sewer exists.

All w.c's in the City are provided with flushing apparatus and water supply.

An improvement of great value from a sanitary point of view has been commenced in connection with keeping of house refuse. The Health Committee having decided that in blocks of not less than three houses the owner shall be called on to provide suitable receptacles for the refuse. During the year 127 movable iron receptacles with covers have been provided as the result of Notices issued.

We were called upon by the Local Government Board to prepare a Return showing the arrangements for the storage, collection, and disposal of house refuse. Amongst other information, we estimated that there were 26 ashpits in combination with privies, 70 dry ashpits, about 2000 movable iron receptacles with

covers, and about 8000 movable receptacles consisting of buckets and boxes. Ashpits are emptied at a cost of 2s. per load to the occupier, while all movable receptacles are emptied weekly free of charge.

DRAINAGE.

When it is considered that it is only in recent years that any system of inspection and testing of drains has taken place, it cannot be wondered at that serious defects in the drainage of houses are constantly coming to light. Even now we are not enabled to compel builders to give notice when executing sanitary work, and the fact of the work being underground allows bad workmanship to be done by inexperienced men, and makes it easy for a job to be scamped.

Under my supervision the drains to 91 houses were repaired or reconstructed. The water or smoke test was applied to all newly laid drains, and in all cases proper disconnection and ventilation provided. Eighty-three stoneware gulleys were substituted for the defective iron lip or bell traps. The frequent inspections of these works while in progress takes up a good deal of my time.

FACTORY AND WORKSHOP ACT.

There are at present 235 workshops (not including bakehouses) on our Register. Twelve new workshops have been added during 1913, and sixteen have been struck off (having given up business).

During the year I have had occasion to call the attention of the owners or occupiers to the following defects :—

Workshops not in a clean condition.....	11
„ „ sufficiently ventilated	2
Accumulations of refuse removed	2
Defective drainage repaired	3
„ condition of water closets	10
Want of separate sanitary conveniences for females .	1
Defective floors, roofs, etc.	9

In only one instance was it found that a young person under 18 years of age was being employed and no Abstract of the Factory and Workshop Act was affixed in the workshop. The attention of H.M. Inspector was called to this contravention.

Eighteen notices of infringements of the Public Health Acts were received from H.M. Inspector of Factories and were immediately dealt with.

HOMEWORK.

It is an obligation imposed upon the occupiers of Factories and Workshops (in certain trades) to keep and send to your Council, twice a year, lists of the outworkers employed by them, and your Council have the power to prohibit employers from giving outwork to be done in unwholesome dwellings.

During the year 49 lists of outworkers were received (25 in February and 24 in August), giving the names and addresses of 3039 persons.

A considerable amount of time and clerical work was required to examine these lists, and no less than 1151 of the names and addresses had to be abstracted from these lists and forwarded to 21 other Local Authorities.

If the place of employment of any outworker included in the lists is in another District, it is our duty to send the name and place of employment to the Local Authorities of that District.

One of the lists sent to us contained the names of 1272 outworkers, and of these 692 lived in 18 separate districts outside Worcester. One hundred and forty-one recorded visits have been made to the outworkers in the City, and 19 Notices were issued to put their premises into sanitary condition.

Ten cases of infectious disease occurred in outworkers' premises, and letters were sent to the firms forbidding work to be given to the occupants.

[Table sent by Home Office].

Factories, Workshops, Laundries, Workplaces and Homework.

1.—INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories (Including Factory Laundries.)	15	8	...
Workshops (Including Workshop Laundries.)	230	18	...
Workplaces... .. (Other than Outworkers' premises included in Part 3 of this Report.)	...	...	...
Total	245	26	...

2.—DEFECTS FOUND.

Particulars. (1)	Number of Defects.			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness	6	6	...	...
Want of Ventilation	2	2	...	...
Overcrowding	1	1	...	...
Want of drainage of floors	2	2	...	...
Other nuisances	10	10	...	...
Sanitary accommodation {	insufficient	1	1	...
	unsuitable or defective	10	10	...
	not separate for sexes	1	1	...
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal occupation of underground bakehouse (s. 101)... ..	...	...	...	...
Breach of special sanitary requirements for bakehouses (ss. 97 to 100) ...	5	5	...	...
Other offences (Excluding offences relating to out- work which are included in Part 3 of this Report)	...	...	...	...
* Total	38	38	...	...

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

NATURE OF WORK.*	OUTWORKERS' LISTS, SECTION 107.										OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.		
	Lists received from Employers.		Twice in the year.		Lists.	Outworkers.	Once in the year.	Prosecutions.		Number of Inspections of Outworkers' premises.	Instances.	Notices served.	Prosecutions.	Instances.	Orders made (Section 110).	Prosecutions (Sections 109, 110).
								Failing to keep or permit inspection of lists	Failing to send lists.							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
		+	Lists.	+	Outworkers.			Occupiers as to keeping or sending lists.	Numbers of Addresses of Outworkers forwarded to other Councils.							
Wearing Apparel—	38	2941	4	16	48	1151	...	...	...	141	19	19	...	10	10	...
(1) making, &c. ...	...	...	...	...	...	(38 Lists.)	...	...	...	...	...	...	...	...	...	...
(2) cleaning and washing...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lace, lace curtains and nets ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sacks ...	2	59	...	...	2	...	...	...	...	...	...	...	...	...	...	...
Furniture and Upholstery ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fur pulling ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Paper Bags and Boxes ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Brush making ...	4	14	...	...	4	...	...	...	...	...	...	...	...	...	...	...
Stuffed Toys ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
File making ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Electro Plate ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cables and Chains ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cart Gear ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Locks, Latches and Keys ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Textile weaving...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ...	44	3014	5	25	54	1151	...	...	...	141	19	19	...	10	10	...

* If an occupier gives out work of more than one of the classes specified in column 1, and subdivides his list in such a way as to show the number of workers in each class of work, the list should be included among those in column 2 (or 4 as the case may be) against the principal class only, but the outworkers should be assigned in column 3 (or 5) into their respective classes. A footnote should be added to show that this has been done.

+ The figures required in columns 2 and 3 are the total number of lists received from employers who sent them both in February and August as required by the Act and of the entries of names of outworkers in those lists. They will, therefore, usually be double of the number of such employers and (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name will often be repeated.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year. (1)				Number (2)
Important classes of workshops, such as } workshop bakehouses, may be enumer- } ated here.	Workshops	...	...	235
	Bakehouses	...	...	75
Total number of workshops on Register	...	...	...	310

5.—OTHER MATTERS.

Class. (1)	Number. (2)
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (s. 133)...	1
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5).	18
Notified by H.M. Inspector ...	18
Reports (of action taken) sent to H.M. Inspector ...	18
Other ...	..
Underground Bakehouses (s. 101) :—	
Certificates granted during the year ...	None
In use at the end of the year ...	5

PRIVATE SLAUGHTERHOUSES.

There are in the City 31 Registered Private Slaughterhouses. Of these, 12 are situated in the Shambles; three in Sidbury; two in Droitwich Road, Lowesmoor, St. John's, and The Tything; one in Astwood Road, Hylton Road, Friar Street, Broad Street, Newtown Road, Hood Street, George Street, and Ombersley Road.

In several cases one slaughterhouse is used conjointly by two or more butchers.

Frequent visits have been made to the slaughterhouses to see that the Bye-laws are complied with, and to inspect as far as possible the meat killed therein. I have on several occasions had to draw the attention of the occupiers to the need of limewashing and removal of garbage.

At several of the slaughterhouses various repairs, such as improvements to drainage, relaying of floors, etc., have been carried out, but as most of the slaughterhouses are structurally defective and badly situated, it is impossible to convert them into anything like suitable premises for slaughtering, or for the keeping of animals for fasting purposes.

In nine instances the lairs or fasting pens are inside the slaughterhouses, and in 17 cases the animals have to be driven either through the butcher's shop or up narrow passages to the slaughterhouses.

From time to time complaints have been received of the nuisance from the bleating of calves and removal of garbage from the slaughterhouses, and these matters have been dealt with as far as possible, but so long as the law allows these old slaughterhouses to exist in populated districts the inhabitants have to put up with such nuisances.

PUBLIC SLAUGHTERHOUSES.

The Public Slaughterhouse was opened in 1868, and, from time to time, has been brought more up-to-date. It is situated in the Croft Road and adjoins the Cattle Market, and is close to a Railway siding.

The Manager (Mr. L. Skilbeck) is a practical butcher, and devotes his whole time to the duties of his office. He exercises supervision over the animals slaughtered, and inspects all meat before removal from the houses. He has called my attention to many suspicious carcasses, and besides the internal organs of several animals, the following carcasses were voluntarily surrendered and destroyed :—

5 Beasts, 2 Sheep, 1 Calf, 3 Pigs.

The following butchers have used the Slaughterhouses regularly during the year :—

General Butchers.

Messrs. Eastmans Ltd., 5, St. Swithin Street.

Mr. H. Laight, 155, London Road.

Mr. J. Nichols, 12, Comer Road.

Mr. J. Slater, 22, Lowesmoor.

Mr. R. J. Smith, 31½, Foregate Street.

Mr. E. Surman, 20, Northfield Street.

Mrs. Till, 47, The Shambles.

Mr. C. Warner, 73, Sidbury.

Pork Butchers.

Mr. C. Daft, 97, Sidbury.

Messrs. Fearis & Co., 10, Mealcheapen Street.

Mr. J. Morris, 43, Upper Tything.

The following is the number of animals slaughtered at the Public Slaughterhouses during the four years ending March 31st:—

	1911	1912	1913	1914
Number of Bovines.....	494	520	484	429
„ Sheep	1695	2266	2609	1604
„ Calves	286	452	527	252
„ Pork Pigs ...	1420	1677	2234	1356
„ Bacon Pigs .	18	41	58	26
	<hr/> 3913	<hr/> 4956	<hr/> 5912	<hr/> 3667

It will be observed that there has been a considerable decrease in the number of animals slaughtered, this is due to the fact that two butchers, who previously used the slaughterhouses, are now using a private slaughterhouse, also to the prevailing scarcity and high prices of animals generally.

DAIRIES, COWSHEDS, AND MILKSHOPS.

In the City there are 85 persons registered under the Dairies, Cowsheds, and Milkshops Order, seven of whom are Cowkeepers, the remaining 78 being Dairymen or Purveyors of Milk. Three new names have been added to the Register during the year, and three have been struck off, having given up business.

All the premises have been visited, and our Regulations with regard to cleanliness of premises and of milk vessels have been enforced. I have specially requested all milk vendors who store milk in shops to provide suitable covers to their vessels.

Each of the seven registered cowsheds within the City come under Part I. of our Regulations, viz. :—“The cows from which are habitually grazed on grass land during the greater part of the year, and when not so grazed are turned out during a portion of each day.” In these cowsheds a specified amount of cubic space cannot be enforced.

The usual cleansing and periodical limewashing of the interior of the cowsheds have been carried out, but I regret to say that the cleanliness of the floors and grooming of the cattle does not receive the attention that is necessary for the supply of a wholesome and pure milk.

SALE OF FOOD AND DRUGS ACTS.

The total number of samples submitted to the Analyst in 1913 was 138. Of these, 88 were taken under the Food and Drugs Acts and 50 were test samples.

In the City one sample was taken for every 349 persons, this being at the rate of 2·8 per 1000 of the population. This is about the average number of samples taken throughout the country.

Of the 88 samples taken under the Acts, 80 were certified to be genuine and eight as adulterated. Of the 50 test samples, 41 were genuine and nine adulterated.

The following shows the amount of adulteration during the past three years :—

	1911.		1912.		1913.	
	Formal.	Informal.	Formal.	Informal.	Formal.	Informal.
Analyses	92	51	91	50	88	50
Adulterated	13	5	10	4	8	9
Adulterated per cent.	14·1	9·8	10·9	8·0	9·0	18·0
	12·5		9·9		12·3	
Amount of Fines and Costs	£72 3s. od.		£28 19s. 6d.		£26 4s. od.	

The samples collected were as follows :—

Totals.					Formal.		Informal.	
Number Examined.	Number Adulterated.				Number Examined.	Number Adulterated.	Number Examined.	Number Adulterated.
2	—	Almonds (Ground)	...	...	2	—	—	—
2	—	Arrowroot	...	...	—	—	2	—
2	—	Brandy	...	...	—	—	2	—
31	—	Butter	...	...	16	—	15	—
2	—	Camphorated Oil...	...	...	—	—	2	—
7	2	Coffee	...	...	5	2	2	—
6	6	Cream	...	...	3	3	3	3
1	—	Gin	...	...	—	—	1	—
1	—	Ginger (Ground)	...	...	1	—	—	—
3	—	Lard	...	...	2	—	1	—
2	—	Mercury Ointment	...	...	—	—	2	—
66	9	Milk	...	...	57	3	9	6
4	—	Pearl Barley	...	...	—	—	4	—
2	—	Quinine	...	...	—	—	2	—
1	—	Sugar	...	...	1	—	—	—
4	—	Sugar (Demerara)...	...	...	1	—	3	—
2	—	Whiskey	...	...	—	—	2	—
138	17				88	8	50	9

The samples found adulterated were dealt with in the following manner :—

COFFEE.

Seven samples of Coffee were submitted to the Analyst ; five being taken under the Acts and two being test samples. Two of the former were returned as adulterated.

Sample No. 47.—This sample was adulterated with 39 per

cent. of chicory. The coffee was sold in a tin marked "French Coffee. This is sold as a mixture of Chicory and Coffee." This lettering was very small, and the tin was handed to my deputy wrapped in a bag. At the time of sale no statement was made nor was attention drawn to the declaration on the tin. We therefore contended that the vendor was not protected by means of the notice or label.

A summons was issued but the case was dismissed.

Sample No. 45 was adulterated with 48 per cent. of chicory. A summons was issued, but having regard to the Magistrates' decision in the former case, we withdrew the summons on the day of the trial. The circumstances of the sale were similar to those detailed above.

MILK.

Of the 57 samples of Milk taken under the Acts, 54 proved to be genuine, and three adulterated. Proceedings were taken against each of the vendors with the following results:—

Sample No. 68.—This sample was taken at the place of delivery. It was found to be 13·3 per cent. deficient in fat and the farmer was fined £2 9s. 6d. We had considerable difficulty to prove that the milk was being delivered in pursuance of a contract between the milkman and the farmer.

Sample No. 89 was deficient in non-fatty solids to the extent of 20 per cent. The Magistrates inflicted a fine of £5 and £2 3s. costs. This is the case mentioned below where numerous test samples had to be obtained before taking the official sample.

Sample No. 90 was found to be 10 per cent. deficient in non-fatty solids. The Magistrates inflicted a fine of £1 and £2 10s. costs. The farmer raised the defence that the milk had not been tampered with, and was sold as it came from the cow.

Of the nine test samples of milk six proved to be adulterated. The circumstances are reported upon under Test samples.

BUTTER.

The 31 samples of Butter were all certified to be genuine. As this is the second year in succession that all butter samples have been genuine it is highly satisfactory, especially when it is considered that many of the samples were purchased informally from small shopkeepers in the poor districts in small quantities.

TEST SAMPLES.

There was a larger percentage of adulteration in the Test Samples. This is explained by the fact that four of the samples (Nos. 25, 35, 36, and 38) were milk purchased from the same person. This milkman had been fined for refusing to serve, but as I was still suspicious, I got my deputy to become a regular customer with the result that on different days the milk supplied was 3, 5, 8, and 18 per cent. deficient in non-fatty solids. The officially taken sample proved to be 20 per cent. deficient, and the milkman was fined £5 and £2 3s. costs (see sample No. 89).

Another test sample (No. 11) of milk which proved to be adulterated was in connection with a case of refusing to serve. The milkman for this latter offence was fined the full penalty, £10.

With regard to another adulterated test sample, No. 36, an official sample (see sample No. 90) was afterwards taken, and a conviction obtained.

Three more of the reported adulterations were Cream. These samples were sold in receptacles labelled "Preserved Cream."

OFFENCES OTHER THAN ADULTERATION.

Two summonses were issued for refusing to serve milk. In the

one case the milkman was fined the maximum penalty, £10, and in the other case the milkman was fined £1 and £2 1s. 6d. costs.

PROSECUTIONS.

Seven summonses were issued under the Food and Drugs Acts, five relating to adulterations and two for refusing to serve milk.

Five convictions were obtained. In two cases, both relating to coffee as mentioned above, one summons was dismissed and one withdrawn.

The total fines and costs for the year amounted to £26 4s. od.

WATER.

At the request of the Health Committee, two samples of tap water are taken each quarter in different parts of the City and sent for chemical analysis. Seven of the samples were certified by the City Analyst (Mr. Duncan) to be fit for drinking purposes, but one sample taken on November 12th was reported to have an unusually large amount of Albuminoid Ammonia and of Oxygen absorbed.

Four samples of well water were submitted and certified to be unfit for drinking purposes. The wells were closed and the City water laid on to the houses.

Under Section 62 of the Public Health Act, 1875, thirteen houses have been provided with an improved water supply, either by increasing the size of the existing service pipes or by bringing the water nearer the houses.

There are now only about 20 houses within the City that are without the City water supply.

UN SOUND FOOD.

The following articles of food were destroyed as being diseased, unsound, or unwholesome :—

Article.			Cause of Condemnation.
The carcasses and organs of	3 cows		Generalized tuberculosis.
„ carcass	„ 1 cow		Emaciation due to Johnne's disease.
„ „	„ 1 cow		Emaciation and pericarditis.
„ carcasses	„ 2 cows		Pyrexia, following on parturition.
„ carcass	„ 1 pig		Generalized tuberculosis.
„ „	„ 1 pig		Pleurisy and dropsy.
„ „	„ 1 pig		Imperfectly bled.
„ carcasses	„ 2 pigs		Unwholesome.
„ carcass	„ 1 pig		Emaciation and dropsy.
„ „	„ 1 sheep		Lobar pneumonia, dropsy.
„ „	„ 1 sheep		Sturdy and emaciation.
„ „	„ 1 calf		White scour and dropsy.
Head and tongue of	1 cow	...	Actinimycosis.
140 lbs. of frozen beef	...	...	Bone stink.
32 lbs. „	...	...	Traumatism.
70 lbs. of beef	...	...	Decomposition.
11 lbs. of bacon...	...	...	„
Quantity of tinned goods	...	...	Unsound.

The total weight of food condemned was 2 tons, 10 cwt., 23 lbs. With three exceptions the food was voluntarily surrendered by the respective owners.

Two of the beasts affected with tuberculosis were well nourished animals, costing £21 and £16 respectively in the Worcester Cattle Market. The beasts were bought by the butchers in good faith in the open Market, and there were no signs of disease when alive.

Three Justices' Orders were obtained in connection with food seizures, and prosecutions ensued in two cases. One person was summoned for exposing for sale in the Market Hall, the carcase of a sucking pig which was unfit for food, and was fined £3 and £2 7s. od. costs. One butcher was fined £1 and £2 14s. 6d. costs for selling a beef kidney which was unfit for food.

COMMON LODGING HOUSES.

There are 12 Registered Common Lodging Houses in the City, having 61 rooms and accommodation for 205 lodgers.

5 of the houses take in men only.

3 „ „ married couples and men.

3 „ „ all persons.

1 house takes in women only.

Most of the houses are very old, and are, in consequence subject to many sanitary disadvantages, but the occupiers endeavour to keep them, by frequent cleansing and limewashing, in a clean and sanitary condition.

The houses have been frequently visited, and special attention was given to them just before and after the hop-picking season.

OFFENSIVE TRADES.

On January 28th, the Local Government Board confirmed your Council's Order declaring the trades of Blood-drier, Fat-melter or extractor, Glue-maker, Gut-scraper, Rag and Bone dealer, Fish-frier to be Offensive Trades. This Order means that, in future, none of the above-mentioned trades can be established within the City without your sanction.

Bye-laws with respect to the following trades were also confirmed by the Local Government Board on the 15th day of March, 1913:—

Blood-boiler, Blood-drier, Bone-boiler, Soap-boiler,

Tallow-melter, Fat-melter, Tripe-boiler, Glue-maker, Gut-scraper, Rag and Bone dealer, Fish-frier.

A Register of the trades affected has been prepared, detailed inspections of the premises made, and Notices served requiring compliance with the Bye-laws.

At the end of the year the following trades had been entered upon our Register :—

- 27 Fish-friers.
- 4 Tripe-boilers.
- 3 Fellmongers.
- 6 Rag and Bone Dealers.
- 3 Gut-scrappers.
- 2 Hide, Skin, and Fat Dealers.

PUBLIC BATHING.

I have maintained a general supervision of the Bathing Barges, and they have been well kept by the Attendants.

The Bathing Barges are open during the Summer months from 6.0 a.m. until dusk on every week-day, and from 6.0 a.m. to 10.0 a.m. on every Sunday.

Part of each Barge is entirely free, and a charge of twopence is made for the use of a private box.

The receipts during the past three years have been as follows :—

	1911			1912			1913		
	£	s.	d.	£	s.	d.	£	s.	d.
Ladies' B. B. ...	17	14	6	7	19	10	17	8	0
Men's B. B. ...	37	12	2	15	1	8	18	6	0
Total...	55	6	8	23	1	6	35	14	0

The Barges are reserved for the exclusive use of children from

the Elementary Schools between 10.0 a.m. and 12 0 o'clock noon on School days.

CONCLUSION.

I again desire to express my thanks to the Town Clerk and Medical Officer of Health for the hearty support that they have at all times extended to me, and I have also to acknowledge the cordial co-operation of each member of the Department throughout the year.

I am,
Mr. Mayor and Gentlemen,
Your obedient Servant,

RALPH TAYLOR,
Member of the San. Inspector's Association,
Cert. R. Sanitary Institute,
Cert. Inspector of Meat and other Foods,
Chief Sanitary Inspector.

CANAL BOATS ACTS.

The following is a copy of the Annual Report submitted to the Local Government Board as required within 21 days after the 31st December in each year :—

To the Chairman and Members of the Health Committee.

CANAL BOATS ACTS.

Gentlemen,

I beg to submit to you the Annual Report required by Section 3 of the Canal Boats Acts, 1884, of the work accomplished under the Canal Boats Acts, and the Regulations made by the Local Government Board thereunder.

During the year 1913, 49 boats were inspected, and generally speaking the condition of the boats were found to be satisfactory.

There were no infringements of the Acts and Regulations found in 39 of the 49 inspections, but in the remaining 10 inspections 15 infringements were detected.

The following table shows the nature of the contraventions :—

Masters without certificates	2
Certificates not identifying the owners with the boats	3
Boats not properly marked	1
Cabins overcrowded	2
Females over 12 years of age improperly occupying cabin.....	1
Cabins required to be painted	2
Cabins out of repair ..	2
Boats without proper water vessels	2

The custom of sending notices to owners or masters drawing

attention to the defects discovered has been continued with satisfactory results. As a rule compliance was readily made, and in no case was it found necessary to resort to legal proceedings.

With regard to the two cases of overcrowding, I found that the cabin was, in the one case, occupied by husband, wife, and four children, ages 7, 4, 3, and 1; and in the other case by husband, wife, and three children, ages 5, 2, and 6 months.

The cubic capacity of the cabins was about 130 cubic feet, and the certificates of registration allowed three persons to occupy the cabins.

The number of women on the boats inspected was 15, this is an increase compared with 11 in 1912. Six children between 5 and 12 years of age and 11 children under five years were found on board the boats.

No case of illness or infectious disease was reported on any boat during the year.

The total number of boats upon the Register on 31st December, 1913, was 123. Of this number, I believe 42 boats to be in use or available for use, and 81 boats which cannot be traced.

During the year two boats have been registered, one being a new boat and the other being re-registered owing to change of ownership. The latter boat was previously registered with the Kidderminster Authority, and the certificates of registration were returned to Kidderminster to be cancelled.

I am,

Mr. Chairman and Gentlemen,

Your obedient Servant,

RALPH TAYLOR,

Mem. San. Insp. Assoc.

Chief Inspector.